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10/576,630	04/21/2006	Noriyoshi Sato	NGB-40271	5770

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EXAMINER	
SHEDRICK, CHARLES TERRELL	
ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
06/09/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/576,630	SATO ET AL.	
	Examiner	Art Unit	
	CHARLES SHEDRICK	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-18 and 20-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-18 and 20-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **14-18, 21, 23-24, 27-30, 33-34 and 37-38** have been rejected under 35 U.S.C. 102(b) as being anticipated by Barnett et al. 2003/0118179, '**Barnett**', hereinafter.

Consider **Claim 14**, Barnett teaches a connecting device comprising: a bendable member which has enough restoring force and rigidity to restore a bent state to an unbent state and foldably connects two housing portions separated from each other by a predetermined distance (**e.g., elastic sheet 30 figures 3 and 5 – elastic spring loading properties established by the curvature- 0009**); and a sheet shaped member covering the bendable member and the two housing portions (**e.g., see elastic sheet 30 is encased in elastic sheath 40 as illustrated in figure 5 and discussed in at least 0021**), wherein the bendable member has an arc shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an unfolded state(**e.g., pre-stressed to have a curvature across its width with a radius -0021**).

Consider **Claim 15**, Barnett teaches connecting device comprising: a joint member

having flexibility on which two housing portions are fixed at a predetermined gap(**e.g., see elastic sheet 30 is encased in elastic sheath 40 as illustrated in figure 5 and discussed in at least 0021- see also figure 2**); and a bendable member which has enough restoring force and rigidity to restore a bent state to an unbent state and foldably connects the two housing portions so as to be overlapped with the two housing portions(**e.g., elastic sheet 30 figures 3 and 5 – elastic spring loading properties established by the curvature- 0009-see also paragraphs 0018-0020**), wherein the bendable member has an arc shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an unfolded state(**e.g., pre-stressed to have a curvature across its width with a radius -0021**), and the joint member covers the bendable member and the two housing portions(**e.g., see at least figures 5 for bendable member coverage and figures 1 and 4 for housing coverage – covers lower portion of top half of housing when inserted into slot 12**).

Consider **claims 16 and 17 and as applied to claims 14 and 15**, Barnett teaches wherein the bendable member is attached to the two housing portions (**figure 4 illustrates the attachment of bendable member shown in figure 5**), with a longitudinal concave portion thereof oriented in a direction parallel to a direction in which the two housing portions are folded (**e.g., pre-stressed to have a curvature across its width with a radius -0021**).

Consider **claim 18 and as applied to claim 15**, Barnett teaches wherein the joint member has a folding force generating means for generating folding force to hold the a folded state of the housing portions at a substantially central region thereof corresponding to the gap between the two housing portions (**i.e., the hinge provides construction wherein the parts are loaded away from each other, yet require little latching force to hold the closed position- 0007 –**

the hinge generates 'a folding force' in the closed direction, but more force in the open direction – see angle of opening and closing - 0019).

Consider **claim 21 and as applied to claim 14**, Barnett teaches two housing portions (**e.g., see figure 1**); and the connecting device according to claim 14 that foldably connects the two housing portions (**e.g., see figure 5**).

Consider **claim 23 and as applied to claim 21**, Barnett teaches wherein both ends of the bendable member in the longitudinal direction are fixed to leading ends of bosses provided on the two housing portions (**e.g., cooperating pegs and holes -0018**), and the leading ends of the bosses have spherical shapes (**e.g., cooperating pegs and holes are spherical in shape -0018**).

Consider **claim 24 and as applied to claim 21**, Barnett teaches wherein both ends of the bendable member in the longitudinal direction are fixed to leading ends of bosses provided on the two housing portions (**e.g., see orientation illustrated in figure 1**), and the leading ends of the bosses each have R portions opposite to each other (**e.g., cooperating pegs and holes -0018**).

Consider **claim 27 and as applied to claim 14**, Barnett teaches wherein the bendable member extends in a single straight line from one of the two housing portions to the other housing portion (**e.g., see bendable member of figure 5 illustrated in at least figures 1 and 2**).

Consider **claim 28 and as applied to claim 27**, Barnett teaches wherein the bendable member has substantially gutter shape in a connecting direction thereof (**e.g., pre-stressed to have a curvature across its width with a radius -0021**).

Consider **claims 29 and 30 and as applied to claims 14 and 15**, Barnett teaches wherein the sectional view of a central portion of the bendable member has a linear shape when the two housings are in a folded state (**e.g., elastic sheet and sheath deforms based –note elastomeric**

properties noted in at least 0010 and 0023)(i.e., deformation).

Consider **claims 33 and 34 and as applied to claims 14 and 15**, Barnett teaches wherein an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state (**e.g., see inclination described in 0019- 0021 and illustrated in figures 2 and 4**).

Consider **claims 37 and 38 and as applied to claims 14 and 15**, Barnett teaches wherein a center of the bendable member has the arc- shaped cross section (**e.g., pre-stressed to have a curvature across its width with a radius -0021**).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims **20-22, 25-26 31-32, 35-36 and 39-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett et al. 2003/0118179, '**Barnett**', hereinafter, in view of Holtorf et al. US Patent No.: 7,251,323, '**Holtorf**', hereinafter.

Consider **claim 20**, Barnett teaches a connecting device comprising: a connecting portion which foldably connects two housing portions(**e.g., see elastic sheet 30 is encased in elastic sheath 40 as illustrated in figure 5 and discussed in at least 0021- see also figure 2**), wherein said connecting portion comprises a bendable member(**e.g., see elastic sheet 30 is encased in elastic sheath 40 as illustrated in figure 5 and discussed in at least 0021- see also figure 2**), and wherein the bendable member has a curved shape in sectional view perpendicular to a direction in which the bendable member bridges the two housing portions while the two housings are in an unfolded state(**e.g., pre-stressed to have a curvature across its width with a radius - 0021**); a flexible wiring member which connects the two housing portions such that they can communicate with each other(**FPC –flat printed circuit -0021- claim 12**);wherein the connecting portion covers the flexible wiring member (**e.g., see FPC 42 is encased in elastic sheath 40 as illustrated in figure 5 and discussed in at least 0021- see also figure 2**).

However, Barnett does not specifically teach a receiving antenna which is connected to one of the two housing portions, wherein the connecting portion covers the flexible wiring member and the receiving antenna.

In analogous art, Holtorf teaches a receiving antenna which is connected to one of the two housing portions wherein the connecting portion covers the flexible wiring member and the receiving antenna (**e.g., 730 may comprise transmitting and receiving antenna and facilitating various internal electrical connections - two connection portion cover 730 of figure 7**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Barnett to include a receiving antenna which is connected to one of the two housing portions, wherein the connecting portion covers the flexible wiring member and the receiving antenna for the purpose of communicating information in a folding apparatus as taught by Holtorf.

Consider **claim 22 and as applied to claim 2**1, Barnett teaches the claimed invention except a display unit that is provided in one of the two housing portions; and an operating unit that is provided in the other housing portion, wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other.

However, in analogous art Holtorf teaches a display unit that is provided in one of the two housing portions(**e.g., see figure 3c**); and an operating unit that is provided in the other housing portion(**e.g., see figure 3c**), wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other(**e.g., see figure 3c**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Barnett to include a display unit that is provided in one of the two housing portions; and an operating unit that is provided in the other housing portion,

wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other for the purpose of communicating information in a folding apparatus as taught by Holtorf.

Consider **Claim 25**, Barnett teaches a folding portable terminal apparatus comprising:; a connecting portion which foldably connects the upper housing portion and the lower housing portion(**e.g., see at least figure 5**); and a cover which covers the upper housing, the lower housing, and the connecting portion(**e.g., see at least figures 5 for bendable member coverage and figures 1 and 4 for housing coverage – covers lower portion of top half of housing when inserted into slot 12**), wherein the connecting portion includes a plurality of connecting plates each having a curved portion that is curved on an axis parallel to a direction in which the connecting plates bridge the two housing portions while the two housings are in an unfolded state(**e.g., see at least figures 5 and paragraphs 0021 and 0024**).

Barnett does not specifically teach a display unit that is provided in one of the two housing portions; and an operating unit that is provided in the other housing portion, wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other.

However, in analogous art Holtorf teaches a display unit that is provided in one of the two housing portions(**e.g., see figure 3c**); and an operating unit that is provided in the other housing portion(**e.g., see figure 3c**), wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other(**e.g., see figure 3c**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Barnett to include a display unit that is provided in one of the two housing portions; and an operating unit that is provided in the other housing portion, wherein, when the two housing portions are in a folded state, the display unit and the operating unit are arranged opposite to each other for the purpose of communicating information in a folding apparatus as taught by Holtorf.

Consider **claim 26 and as applied to claim 25**, Barnett as modified by Holtorf teaches wherein the plurality of connecting plates overlap each other (**e.g., see at least figure 5 and paragraph 0024**).

Consider **claims 31 and 32 and as applied to claims 20 and 25**, Barnett as modified by Holtorf teaches wherein the sectional view of a central portion of the bendable member has a linear shape when the two housings are in a folded state(**e.g., elastic sheet and sheath deforms based –note elastomeric properties noted in at least 0010 and 0023)(i.e., deformation**).

Consider **claims 35 and 36 and as applied to claims 20 and 25**, Barnett as modified by Holtorf teaches wherein an edge of the bendable member is inclined to a surface of one of the two housing portions while the two housings are in the unfolded state(**e.g., see inclination described in 0019- 0021 and illustrated in figures 2 and 4**).

Consider **claims 39 and 340 and as applied to claims 20 and 25**, Barnett as modified by Holtorf teaches wherein a center of the bendable member has the arc- shaped cross section(**e.g., pre-stressed to have a curvature across its width with a radius -0021**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/
Examiner, Art Unit 2617